REVIEW COMMENT RECORD (RCR)

1. Date 08/08/05	2. Review No.
3. Project No. BC Control Area	4. Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
Validation Package for SDG H3118	Surface Soil Sampling	RL Weiss	ERC - S&DM	Sigma 1 372-9631

17. Comment Submittal Approval:	10. Agreement with indicated comment disposition(s)	11. Closed
_____ Organization Manager (Optional)	R. L. Weiss 08/08/2005 Reviewer/Point of Contract _____ _____ Date R. L. Weiss Author/Originator	_____ Reviewer/Point of Contact _____ _____ Date Author/Originator

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Reviewer Concurrence Required	15. Disposition (Provide justification if NOT accepted.)	16. Status
1	No Comments			

Ayres, Doris E

From: Thackaberry, W R (Bill)
Sent: Monday, August 08, 2005 10:07 AM
To: Lynch, Sherry A; Ayres, Doris E
Subject: H3118

I have no comment on the Wet Chemistry section of H3118. I will leave the package in the box on Lee's desk.

Bill Thackaberry

Date: 13 July 2005
To: Fluor Hanford Inc. (technical representative)
From: TechLaw, Inc.
Project: BC Controlled Area Surficial Soil Characterization
Subject: Wet Chemistry - Data Package No. H3118

INTRODUCTION

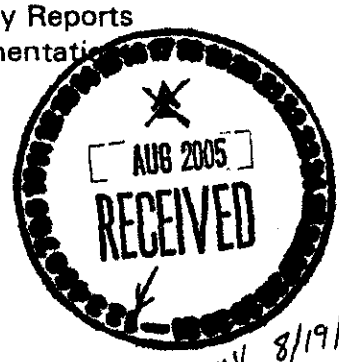
This memo presents the results of data validation on Data Package No. H3118 prepared by Lionville Laboratory, Inc. (LLI). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample	Media	Validation	Analysis
B1CHC5	3/11/05	Soil	C	See note 1
B1CHH3	3/11/05	Soil	C	See note 1
B1CHC6	3/11/05	Soil	C	See note 1
B1CHH4	3/11/05	Soil	C	See note 1
B1CHC7	3/11/05	Soil	C	See note 1
B1CHH5	3/11/05	Soil	C	See note 1

1 - Nitrate/nitrite by 353.2 and chromium VI by 7196A.

Data validation was conducted in accordance with the FHI validation statement of work and the Sampling and Analysis Instruction for the BC Controlled Area Soil Characterization, D&D-24693, Rev. 0. Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client



8/19/05

DATA QUALITY PARAMETERS

- **Holding Times/Sample Preservation**

Analytical holding times are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be analyzed within 30 days for chromium VI and 28 days for nitrate/nitrite.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR". If the holding time is exceeded and the samples not properly preserved, results are rejected and flagged "R/UR".

Due to the samples not being properly preserved (cooler temperature of 9.6°C) and the holding time being exceeded, all chromium VI and nitrate/nitrite results were rejected and flagged "R".

All other holding times were acceptable.

- **Method Blanks**

Method Blanks

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. All blank results must fall below the contract required detection limit (CRQL) to be acceptable.

All method blank results were acceptable.

Field (Equipment) Blank

No equipment blanks were submitted for analysis.

- **Accuracy**

Matrix Spike

Matrix spike (MS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike and LCS recoveries must fall within the range of 70% to 130%. Samples with a recovery of less than 30% and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 70% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

All matrix spike recovery results were acceptable.

Laboratory Control Sample

The LCS is used to monitor the overall performance of all steps in the analysis. Recoveries must fall within the range of 70% to 130% for LCS analysis. Samples with a recovery of less than 50% are rejected and flagged "UR". Samples with a recovery of 50% to 69% and a sample recovery below the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

All LCS results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All laboratory duplicate results were acceptable.

Field Duplicate

No field duplicates were submitted for analysis.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required target quantitation limits (RTQLs) to ensure that laboratory detection levels meet the required criteria. All results met the RTQL.

- **Completeness**

Data package No. H3118 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 0%.

MAJOR DEFICIENCIES

Due to the samples not being properly preserved (cooler temperature of 9.6°C) and the holding time being exceeded, all chromium VI and nitrate/nitrite results were rejected and flagged "R". Rejected data is unusable and should not be reported.

MINOR DEFICIENCIES

None found.

REFERENCES

FHI, Contract #20266, *Validation Statement of Work*, Fluor Hanford Incorporated, July 7, 2003.

D&D-24693, Rev. 0, *Sampling and Analysis Instruction for the BC Controlled Area Soil Characterization.*

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with FHI validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

WET CHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: H3118	REVIEWER: TLI	PROJECT: BC Controlled Area Surficial Soil Characterization	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Chromium VI Nitrate/nitrite	R	All	Holding time and sample preservation (cooler temperature)

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

Project: FLUOR-HANFORD													
Laboratory: LLI													
Case	SDG: H3118												
Sample Number		B1CHC5		B1CHH3		B1CHC6		B1CHH4		B1CHC7		B1CHH5	
Remarks													
Sample Date		3/11/05		3/11/05		3/11/05		3/11/05		3/11/05		3/11/05	
Wet Chemistry	RQL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Chromium VI	0.5	0.26	R	0.20	UR	0.29	R	0.30	R	0.39	R	0.88	R
Nitrate/Nitrite	2.5	9.5	R	3.8	R	2.4	R	1.8	R	3.0	R	2.6	R

Laboratory applied non-detect qualifiers "U" have been included in this table to minimize miss-interpretation of results. All other qualifiers shown were applied during validation.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/16/05

CLIENT: INUHANFORD F05-014 H3118 LVL LOT #: 0504L162
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1CHC5	% Solids	96.0	%	0.01	1.0
		Chromium VI	0.26 R	MG/KG	0.21	1.0
		Nitrate Nitrite	9.5 R	MG/KG	0.21	1.0
-002	B1CHH3	% Solids	98.6	%	0.01	1.0
		Chromium VI	0.20 uR	MG/KG	0.20	1.0
		Nitrate Nitrite	3.8 R	MG/KG	0.20	1.0
-003	B1CHC6	% Solids	96.3	%	0.01	1.0
		Chromium VI	0.29 R	MG/KG	0.21	1.0
		Nitrate Nitrite	2.4 R	MG/KG	0.21	1.0
-004	B1CHH4	% Solids	98.4	%	0.01	1.0
		Chromium VI	0.30 R	MG/KG	0.20	1.0
		Nitrate Nitrite	1.8 R	MG/KG	0.20	1.0
-005	B1CHC7	% Solids	95.5	%	0.01	1.0
		Chromium VI	0.39 R	MG/KG	0.21	1.0
		Nitrate Nitrite	3.0 R	MG/KG	0.21	1.0
-006	B1CHH5	% Solids	97.8	%	0.01	1.0
		Chromium VI	0.88 R	MG/KG	0.20	1.0
		Nitrate Nitrite	2.6 R	MG/KG	0.20	1.0

7/12/05

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD F05-014 H3118
LVL#: 0504L162

W.O.#: 11343-606-001-9999-00
Date Received: 04-06-05

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 soil samples.

2. The samples were prepared and analyzed in accordance with the methods indicated on the attached glossary.

3. Sample holding times as required by the method and/or contract were met with the exception of Chromium VI that were analyzed 1 day past the method holding time of 30 days.

4. The results presented in this report are derived from samples that did not meet LvLI's sample acceptance policy as noted on the Sample Receipt Checklist.

5. The method blanks were within the method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits.

7. The matrix spike recoveries for Chromium VI and Nitrate Nitrite were within the 75-125% control limits.

8. The replicate analyses for Chromium VI and Nitrate Nitrite were outside the 20% Relative Percent Difference (RPD) control limit that may be attributed to sample inhomogeneity.

9. Results for solid samples are reported on a dry weight basis.

10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/18/05
Date

njp\04-162

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST — F05-014-027 — PAGE 1 OF 1

COLLECTOR: HUGHES, KD	COMPANY CONTACT: BAUER, RG	TELEPHONE NO.: 376-5908	PROJECT COORDINATOR: TRENT, SJ
PRICE CODE: 8H	DATA TURNAROUND: 30 Days / 30 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: BC Controlled Area - Focused A1	PROJECT DESIGNATION: BC Controlled Area Surficial Soil Characterization	SAF NO.: F05-014	
ICE CHEST NO.: GRP-05-013	FIELD LOGBOOK NO.:	COA: 119140E510	METHOD OF SHIPMENT: Government Vehicle
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: N/A BT 4/5/05 See RSR E0014		BILL OF LADING/AIR BILL NO.: N/A BT 4/5/05 See RSR E0014

MATRIX*: A=Air; DL=Drum Liquids; DS=Drum Solids; L=Liquid; O=Oil; S=Soil; SE=Sediment; T=Tissue; V=Vegetation; W=Water; WI=Wipe; X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS: IN02/NO3 - 353.2; Chromium Hex - 7196;
B1CHC5 1'	SOIL	3/11/05	1015	Cool 4C	8G	1	60mL	X
B1CHH3 3'	SOIL	3/11/05	1015					X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin Hughes	8-11-05 15:35	mo-026 Site fridge #3	3-11-05 15:35
Mo-026 Site Fridge #3	4/5/05 0650	Grey Thomas	4/5/05 0650
Grey Thomas	4/5/05 0650	Fed Ex	
Fed Ex		J Kenny	4/6/05 0945

SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000014

A-6003-618(03/03)

COLLECTOR HUGHES, KD	**COMPANY CONTACT** BAUER, RG	**TELEPHONE NO.** 376-5908	**PROJECT COORDINATOR** TRENT, SJ
SAMPLING LOCATION BC Controlled Area - Focused A2	**PROJECT DESIGNATION** BC Controlled Area Surficial Soil Characterization		**SAF NO.** F05-014
ICE CHEST NO. GRP-05-013	**FIELD LOGBOOK NO.**	**COA** 119140ES10	**METHOD OF SHIPMENT** Government Vehicle
SHIPPED TO Lionville Laboratory Incorporated	**OFFSITE PROPERTY NO.** N/A GT 4/5/05 See RSR E0014		**BILL OF LADING/AIR BILL NO.** N/A GT 4/5/05 See RSR E0014

PRICE CODE 8H **AIR QUALITY** ☐ **DATA TURNAROUND** 30 Days / 30 Days

12

MATRIX* A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool 4C
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	NO2/NO3 - 353.2; Chromium Hex - 7196;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CHC6	SOIL 1'	3/11/05	1040	X
B1CHH4	SOIL 3'	3/11/05	1040	X

S100015

CHAIN OF POSSESSION **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin Hughes [signature]	3-11-05 15:35	MO 026 Fridge #3	3-11-05 / 15:35
Mo-026 Fridge #3	4/5/05 6:50	Greg Thomas [signature]	4/5/05 650
Greg Thomas [signature]	4/5/05 0650	Fed Ex	
FedEx		J Perry	4/6/05 0945

SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

HUGHES, KD	COMPANY CONTACT: BAUER, RG	TELEPHONE NO.: 376-5908	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: BH
SAMPLING LOCATION: BC Controlled Area - Focused A2	PROJECT DESIGNATION: BC Controlled Area Surficial Soil Characterization		SAF NO.: F05-014	AIR QUALITY ☐
ICE CHEST NO.: GRP-05-013	FIELD LOGBOOK NO.:	COA: 119140E510	METHOD OF SHIPMENT: Government Vehicle	DATA TURNAROUND: 30 Days / 30 Days
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: JMT 4/6/05 See RSR E0014		BILL OF LADING/AIR BILL NO.: JMT 4/5/05 See RSR E0014	

MATRIX*: A=Air; DL=Drum Liquids; DS=Drum Solids; L=Liquid; O=Oil; S=Soil; SE=Sediment; T=Tissue; V=Vegetation; W=Water; WI=Wipe; X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

PRESERVATION: Cool 4C

TYPE OF CONTAINER: AG

NO. OF CONTAINER(S): 1

VOLUME: 60mL

SPECIAL HANDLING AND/OR STORAGE

SAMPLE ANALYSIS: HCl/HNO3 - 353.1; Chromium Hex - 7196;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B1CHC7	SOIL 1'	3/11/05	1200	X							
B1CHH5	SOIL 3'	3/11/05	1200	X							

00001619

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin Hughes	3-11-05 15:35	MO-026 Fridge	3-11-05 15:35
MO-026 Fridge	4/5/05 0650	Greg Thomas	4/5/05 0650
Greg Thomas	4/5/05 0650	Fed Ex	
Fed Ex		JPlumy	4/6/05 0945

SPECIAL INSTRUCTIONS

LABORATORY SECTION — RECEIVED BY		TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION — DISPOSAL METHOD		DISPOSED BY	DATE/TIME

4003-618(03/03)

Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C (circled)	D	E
PROJECT: ~~100~~ BC Controlled Area			DATA PACKAGE: H3118		
VALIDATOR: TLT		LAB: LLI		DATE: 7/2/05	
			SDG: H3118		
ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI (circled)	pH	NO_3/NO_2 (circled)
Sulfate	TDS	TKN	Phosphate		
SAMPLES/MATRIX					
B1CHC5	B1CHH3	B1CHC6	B1CHH4	B1CHC7	B1CHH5
				Soil	

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .... Yes **No** (circled) N/A

Comments:________________________

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? .... Yes No **N/A** (circled)

Initial calibrations acceptable? .... Yes No **N/A** (circled)

ICV and CCV checks performed on all instruments? .... Yes No **N/A** (circled)

ICV and CCV checks acceptable? .... Yes No **N/A** (circled)

Standards traceable? .... Yes No **N/A** (circled)

Standards expired? .... Yes No **N/A** (circled)

Calculation check acceptable? .... Yes No **N/A** (circled)

Comments:________________________

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E)	Yes	No	(N/A)
ICB and CCB results acceptable? (Levels D, E)	Yes	No	(N/A)
Laboratory blanks analyzed?	(Yes)	No	N/A
Laboratory blank results acceptable?	(Yes)	No	N/A
Field blanks analyzed? (Levels C, D, E)	Yes	(No)	N/A
Field blank results acceptable? (Levels C, D, E)	Yes	No	(N/A)
Transcription/calculation errors? (Levels D, E)	Yes	No	(N/A)

Comments: no FB

4. ACCURACY (Levels C, D, and E)

Spike samples analyzed?	(Yes)	No	N/A
Spike recoveries acceptable?	(Yes)	No	N/A
Sike standards NIST traceable? (Levels D, E)	Yes	No	(N/A)
Spike standards expired? (Levels D, E)	Yes	No	(N/A)
LCS/BSS samples analyzed?	(Yes)	No	N/A
LCS/BSS results acceptable?	(Yes)	No	N/A
Standards traceable? (Levels D, E)	Yes	No	(N/A)
Standards expired? (Levels D, E)	Yes	No	(N/A)
Transcription/calculation errors? (Levels D, E)	Yes	No	(N/A)
Performance audit sample(s) analyzed?	Yes	(No)	N/A
Performance audit sample results acceptable?	Yes	No	(N/A)

Comments: no PAS

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... (Yes) No N/A
Duplicate results acceptable? ..... (Yes) No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No (N/A)
MS/MSD standards expired? (Levels D, E) ..... Yes No (N/A)
Field duplicate RPD values acceptable? ..... Yes No (N/A)
Field split RPD values acceptable? ..... Yes No (N/A)
Transcription/calculation errors? (Levels D, E) ..... Yes No (N/A)

Comments: _____

6. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes (No) N/A
Sample holding times acceptable? ..... Yes (No) N/A

Comments: all <2X hold time
Cooler temp 9.6°C > R all

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

7. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

Appendix 6

Additional Documentation Requested by Client

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/16/05

CLIENT: TNUHANFORD F05-014 H3118 LVL LOT #: 0504L162
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	05LVI030-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	05LN3B29-MB1	Nitrate Nitrite	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/16/05

CLIENT: TNUMANFORD F05-014 H3118 LVL LOT #: 0504L162
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	B1CMK3	Soluble Chromium VI	4.4	0.20u	4.1	104.8	1.0
		Insoluble Chromium VI	1260	0.20u	1180	106.6	100
-003	B1CHC6	Nitrate Nitrite	7.2	2.4	5.2	91.8	2.0
BLANK10	05LVI030-MB1	Soluble Chromium VI	4.1	0.20u	4.0	101.8	1.0
		Insoluble Chromium VI	1350	0.20u	1200	111.8	100
BLANK10	05LN3B29-MB1	Nitrate Nitrite	5.2	0.20u	5.0	105.0	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/16/05

CLIENT: TNUHANFORD F05-014 H3118 LVL LOT #: 0504L162
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	B1CHM3	Chromium VI	0.20u	0.35	69.0	1.0
-003REP	B1CHC6	Nitrate Nitrite	3.4	1.8	31.0	1.0

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TRUthanford **Date:** 4/6/05

Purchase Order / Project# / SAF# / SOW# / Release #: F05-014

LvLI Batch # : 0504L162 **Sample Custodian:** Rmy

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FedEx		Airbill# 847430505904	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 9.6 °C		Cooler # GRP-05-013	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☐ Yes	☑ No	Warm All #5	
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☐ Yes	☑ No	All # 5, 11	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☑ Yes	☐ No	☐ No Discrepancies	

SR-002-B

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD F05-014 H3118

DATE RECEIVED: 04/06/05 LVL LOT # :0504L162

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1CHC5						
% SOLIDS	001	S	05L%S049	03/11/05	04/08/05	04/08/05
CHROMIUM VI	001	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	001	S	05LN3B29	03/11/05	05/11/05	05/11/05
B1CHH3						
% SOLIDS	002	S	05L%S049	03/11/05	04/08/05	04/08/05
CHROMIUM VI	002	S	05LVI030	03/11/05	04/12/05	04/12/05
CHROMIUM VI	002 REP	S	05LVI030	03/11/05	04/12/05	04/12/05
CHROMIUM VI	002 MS	S	05LVI030	03/11/05	04/12/05	04/12/05
CHROMIUM VI	002 MSD	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	002	S	05LN3B29	03/11/05	05/11/05	05/11/05
B1CHC6						
% SOLIDS	003	S	05L%S049	03/11/05	04/08/05	04/08/05
CHROMIUM VI	003	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	003	S	05LN3B29	03/11/05	05/11/05	05/11/05
NITRATE NITRITE	003 REP	S	05LN3B29	03/11/05	05/11/05	05/11/05
NITRATE NITRITE	003 MS	S	05LN3B29	03/11/05	05/11/05	05/11/05
B1CHH4						
% SOLIDS	004	S	05L%S049	03/11/05	04/08/05	04/08/05
CHROMIUM VI	004	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	004	S	05LN3B29	03/11/05	05/11/05	05/11/05
B1CHC7						
% SOLIDS	005	S	05L%S049	03/11/05	04/08/05	04/08/05
CHROMIUM VI	005	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	005	S	05LN3B29	03/11/05	05/11/05	05/11/05
B1CHH5						
% SOLIDS	006	S	05L%S049	03/11/05	04/08/05	04/08/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD F05-014 H3118

DATE RECEIVED: 04/06/05 LVL LOT # :0504L162

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	006	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	006	S	05LN3B29	03/11/05	05/11/05	05/11/05

LAB QC:

CHROMIUM VI	MB1	S	05LVI030	N/A	04/12/05	04/12/05
CHROMIUM VI	MB1 BS	S	05LVI030	N/A	04/12/05	04/12/05
CHROMIUM VI	MB1 BSD	S	05LVI030	N/A	04/12/05	04/12/05
NITRATE NITRITE	MB1	S	05LN3B29	N/A	05/11/05	05/11/05
NITRATE NITRITE	MB1 BS	S	05LN3B29	N/A	05/11/05	05/11/05